MAY 2 8 1996

AGI TECHNOLOGIES

August 29, 1994

15,816.001

Mr. Jo Miles
Toppenish Department of Public Works
21 West First Avenue
Toppenish, Washington 98948

Dear Mr. Miles:

Summary of Field Activities - Change Order 1
Petroleum Hydrocarbon Compounds Site Assessment
21 West First Avenue
Toppenish, Washington

This letter report ...GI) on July 20, 1994 at the above referen... Department of Public Works (DPW). O... ssessment summarized in the report *Sum...*

Harold, 5/31/96
Here's the reports from the City of Toppenish, 4-260015, that we talked about for review. They are getting soil p/l's samples, Please Share with Geoff. Thanks, Matt

Hello Geoff -
① Sharing per Roberta's request - When you finish let's give to John since he has the file -
② Let Katie know our Indian Land Table can be updated.
Thanks,
Harold
6/3/96

PURPOSE AND S...

On April 12 and 13 ...ate the immediate risk to human health a... ...nd storage tank (UST) system at the site. ...of contamination was limited to a small a... ...SCO) during the UST removal.

The purpose of our ...vater which had been determined by PES...

SOIL EXCAVATIO...

On July 20, 1994, t... ...hydrocarbons was overexcavated. The ... ...ing an organic vapor meter equipped wit... ...sual and OVM-PID screening, approxima... ...hydrocarbons was removed and deliver... ...from the excavation sidewall was obtaine...

To attain a groundwa... ...mately 1,500 gallons of water from a sump... ...fter the completion of the groundwater re...

300 120th Avenue N.E., Building 4 ■ Bellevue, Washington 98005 ■ (206) 453-8383 ■ FAX (206) 646-9523
WASHINGTON OREGON CALIFORNIA

AGI
TECHNOLOGIES

August 29, 1994

15,816.001

Mr. Jo Miles
Toppenish Department of Public Works
21 West First Avenue
Toppenish, Washington 98948

Dear Mr. Miles:

Summary of Field Activities - Change Order 1
Petroleum Hydrocarbon Compounds Site Assessment
21 West First Avenue
Toppenish, Washington

This letter report summarizes activities performed by AGI Technologies (AGI) on July 20, 1994 at the above referenced site. AGI was authorized by the City of Toppenish Department of Public Works (DPW). Our scope of services was based on the results of the site assessment summarized in the report *Summary of Field Activities* dated April 27, 1994.

PURPOSE AND SCOPE OF SERVICES

On April 12 and 13, 1994, AGI performed a limited site assessment to evaluate the immediate risk to human health and the environment due to a release from an underground storage tank (UST) system at the site. Results from this investigation indicate that the extent of contamination was limited to a small area discovered by Pacific Environmental Services Co. (PESCO) during the UST removal.

The purpose of our current scope of services was to remove soil and groundwater which had been determined by PESCO to contain petroleum hydrocarbons.

SOIL EXCAVATION AND GROUNDWATER REMOVAL

On July 20, 1994, the area identified by PESCO as containing petroleum hydrocarbons was overexcavated. The limits of the excavation were based on field monitoring using an organic vapor meter equipped with a photoionization detector (OVM-PID). Based on visual and OVM-PID screening, approximately 10 cubic yards of soil believed to contain petroleum hydrocarbons was removed and delivered to a DPW treatment area. One discrete soil sample from the excavation sidewall was obtained to verify removal of petroleum hydrocarbons.

To attain a groundwater sample, a vacuum truck was used to remove approximately 1,500 gallons of water from a sump installed by PESCO during the pump island removal. After the completion of the groundwater removal, a water sample was collected.

AGI TECHNOLOGIES

ANALYTICAL RESULTS

Soil and water samples were analyzed for total petroleum hydrocarbons (TPH) quantified as diesel by Washington State Method WTPH-D. Chemical analysis was performed by ATI in Renton, Washington. A copy of the laboratory report is attached. Chemical analysis indicated TPH quantified as diesel in the soil and groundwater samples at concentrations of 31 and 0.62 parts per million, respectively.

CONCLUSIONS

The analytical results indicated petroleum hydrocarbon constituents were below Ecology Method A cleanup levels in soil and groundwater samples associated with the tank and pump island removals. Based on our field investigation and analytical results, no further action is required.

LIMITATIONS

This report has been prepared for exclusive use by Toppenish Department of Public Works and its other consultants for this project only. The analysis, conclusions, and recommendations in this report are based on conditions encountered at the time of our field investigation, design information you provided, and our experience and engineering judgement. AGI cannot be responsible for the interpretation by others of the data contained herein.

Our work has been performed in manner consistent with that level of care ordinarily exercised by members of the profession currently practicing under similar conditions in the area. No other warranty, express or implied, is made.

Sincerely,

AGI Technologies

Ross R. Stainsby
Geologist

Gary Laakso
Remediation Services Manager

RRS/GLL/tag

Analytical Technologies, Inc.
560 Naches Avenue, S.W., Suite 101, Renton, WA 98055 (206) 228-8335
Karen L. Mixon, Laboratory Manager

ATI I.D. # 407192

August 1, 1994

GI Technologies
.O. Box 3885
Bellevue WA 98009

Attention : Ross Stainsby

Project Number : 15816.001

Project Name : Toppenish

Dear Mr. Stainsby:

On July 21, 1994, Analytical Technologies, Inc. (ATI), received two samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Sincerely,

Victoria L. Bayly
Project Manager

VLB/hal/mrj

Enclosure

Analytical Technologies, Inc.

ATI I.D. # 407192

SAMPLE CROSS REFERENCE SHEET

CLIENT : AGI TECHNOLOGIES
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
407192-1	WEST 7-20	07/20/94	SOIL
407192-2	SUMP	07/20/94	WATER

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	1
WATER	1

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. # 407192

ANALYTICAL SCHEDULE

CLIENT : AGI TECHNOLOGIES
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH

ANALYSIS	TECHNIQUE	REFERENCE	LAB
TOTAL PETROLEUM HYDROCARBONS	GC/FID	WA DOE WTPH-D	R
MOISTURE	GRAVIMETRIC	CLP SOW ILM01.0	R

R = ATI - Renton
SD = ATI - San Diego
PHX = ATI - Phoenix
PTL = ATI - Portland
ANC = ATI - Anchorage
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

Analytical Technologies, Inc.

ATI I.D. # 407192

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: AGI TECHNOLOGIES	DATE SAMPLED	: N/A
PROJECT #	: 15816.001	DATE RECEIVED	: N/A
PROJECT NAME	: TOPPENISH	DATE EXTRACTED	: 07/22/94
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 07/24/94
SAMPLE MATRIX	: WATER	UNITS	: mg/L
METHOD	: WA DOE WTPH-D	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	<0.25
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	88	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 407192-2

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: AGI TECHNOLOGIES	DATE SAMPLED	: 07/20/94
PROJECT #	: 15816.001	DATE RECEIVED	: 07/21/94
PROJECT NAME	: TOPPENISH	DATE EXTRACTED	: 07/22/94
CLIENT I.D.	: SUMP	DATE ANALYZED	: 07/24/94
SAMPLE MATRIX	: WATER	UNITS	: mg/L
METHOD	: WA DOE WTPH-D	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	0.62
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	92	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 407192

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : AGI TECHNOLOGIES
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH
SAMPLE MATRIX : WATER
METHOD : WA DOE WTPH-D

SAMPLE I.D. # : BLANK
DATE EXTRACTED : 07/22/94
DATE ANALYZED : 07/24/94
UNITS : mg/L

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
DIESEL	<0.250	2.50	1.76	70	2.37	95	30H

CONTROL LIMITS	% REC.	RPD
DIESEL	70 - 114	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
O-TERPHENYL	78	100	50 - 150

H = Out of limits.

Analytical Technologies, Inc.

ATI I.D. # 407192

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : AGI TECHNOLOGIES
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH
SAMPLE MATRIX : WATER
METHOD : WA DOE WTPH-D

SAMPLE I.D. # : 820022-33
DATE EXTRACTED : 07/22/94
DATE ANALYZED : 07/24/94
UNITS : mg/L

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	<0.250	<0.250	NC	2.38	2.12	89	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
DIESEL	56 - 135	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
O-TERPHENYL	95	N/A	50 - 150

NC = Not calculable.

Analytical Technologies, Inc.

ATI I.D. # 407192

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: AGI TECHNOLOGIES	DATE SAMPLED	: N/A
PROJECT #	: 15816.001	DATE RECEIVED	: N/A
PROJECT NAME	: TOPPENISH	DATE EXTRACTED	: 07/27/94
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 07/27/94
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: WA DOE WTPH-D	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	<10
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	103	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 407192-1

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: AGI TECHNOLOGIES	DATE SAMPLED	: 07/20/94
PROJECT #	: 15816.001	DATE RECEIVED	: 07/21/94
PROJECT NAME	: TOPPENISH	DATE EXTRACTED	: 07/27/94
CLIENT I.D.	: WEST 7-20	DATE ANALYZED	: 07/29/94
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
METHOD	: WA DOE WTPH-D	DILUTION FACTOR	: 1

RESULTS ARE CORRECTED FOR MOISTURE CONTENT

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	31
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL

SURROGATE PERCENT RECOVERY		LIMITS
O-TERPHENYL	100	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 407192

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : AGI TECHNOLOGIES
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH
SAMPLE MATRIX : SOIL
METHOD : WA DOE WTPH-D

SAMPLE I.D. # : BLANK
DATE EXTRACTED : 07/27/94
DATE ANALYZED : 07/27/94
UNITS : mg/Kg

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
DIESEL	<10.0	200	184	92	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
DIESEL	69 - 115	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
O-TERPHENYL	97	N/A	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 407192

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : AGI TECHNOLOGIES
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH
SAMPLE MATRIX : SOIL
METHOD : WA DOE WTPH-D

SAMPLE I.D. # : 407173-13
DATE EXTRACTED : 07/27/94
DATE ANALYZED : 07/27/94
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	<10.0	<10.0	NC	N/A	N/A	N/A	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
DIESEL	N/A	20

SURROGATE RECOVERIES	SAMPLE	SAMPLE DUP.	LIMITS
O-TERPHENYL	99	104	50 - 150

NC = Not calculable.

Analytical Technologies, Inc.

ATI I.D. # 407192

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : AGI TECHNOLOGIES
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH
SAMPLE MATRIX : SOIL
METHOD : WA DOE WTPH-D

SAMPLE I.D. # : 407173-1
DATE EXTRACTED : 07/27/94
DATE ANALYZED : 07/27/94
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
DIESEL	<10.0	<10.0	NC	200	188	94	179	90	5

CONTROL LIMITS	% REC.	RPD
DIESEL	61 - 120	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
O-TERPHENYL	98	95	50 - 150

NC = Not calculable.

Analytical Technologies, Inc.

ATI I.D. # 407192

GENERAL CHEMISTRY ANALYSIS

CLIENT : AGI TECHNOLOGIES MATRIX : SOIL
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH

PARAMETER	DATE ANALYZED
MOISTURE	07/22/94

Analytical Technologies, Inc.

ATI I.D. # 407192

GENERAL CHEMISTRY ANALYSIS
DATA SUMMARY

CLIENT : AGI TECHNOLOGIES
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH

MATRIX : SOIL
UNITS : %

ATI I.D. #	CLIENT I.D.	MOISTURE
407192-1	WEST 7-20	5.7

Analytical Technologies, Inc.

ATI I.D. # 407192

GENERAL CHEMISTRY ANALYSIS
QUALITY CONTROL DATA

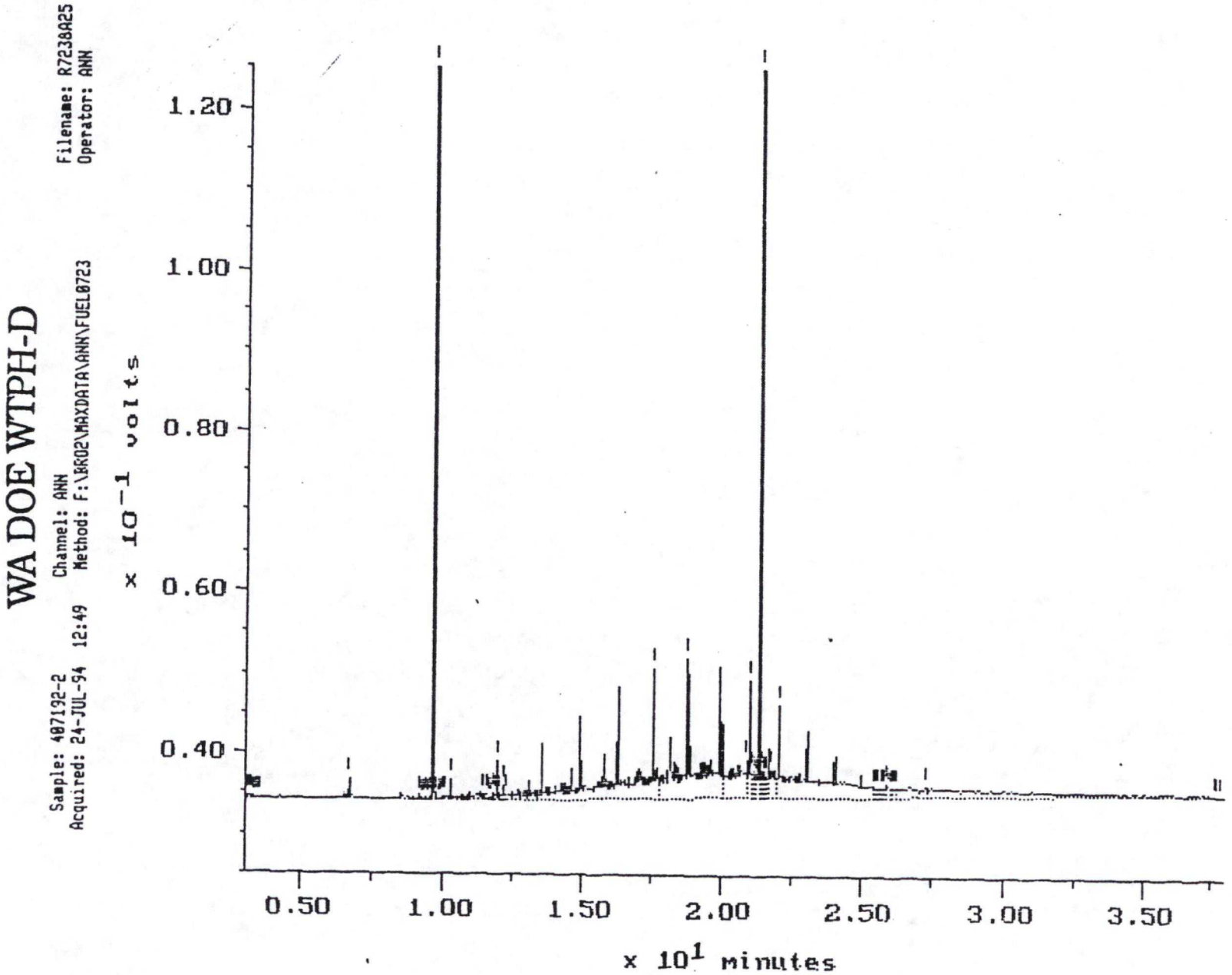
CLIENT : AGI TECHNOLOGIES
PROJECT # : 15816.001
PROJECT NAME : TOPPENISH

MATRIX : SOIL
UNITS : %

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	407198-3	7.7	7.8	1	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{|(\text{Sample Result} - \text{Duplicate Result})|}{\text{Average Result}} \times 100$$


WA DOE WTPH-D
Filename: R7238A25
Operator: ANN
Channel: ANN
Method: F:\BRO2\MAXDATA\ANN\FUEL0723
Sample: 407192-2
Acquired: 24-JUL-94 12:49
x 10-1 volts
1.20
1.00
0.80
0.60
0.40
0.50
1.00
1.50
2.00
2.50
3.00
3.50
x 10^1 minutes

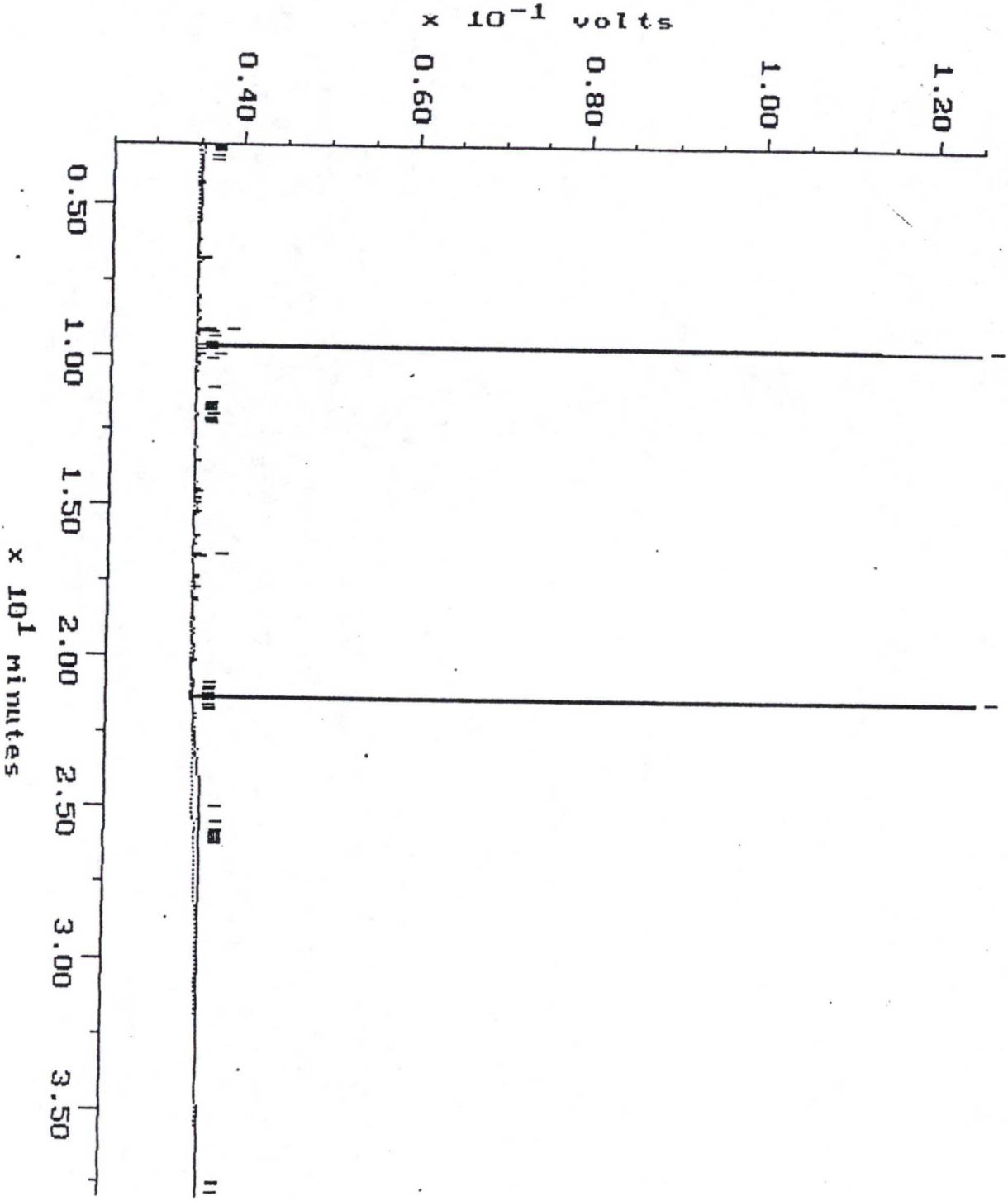
WA DOE WTPH-D

Blank

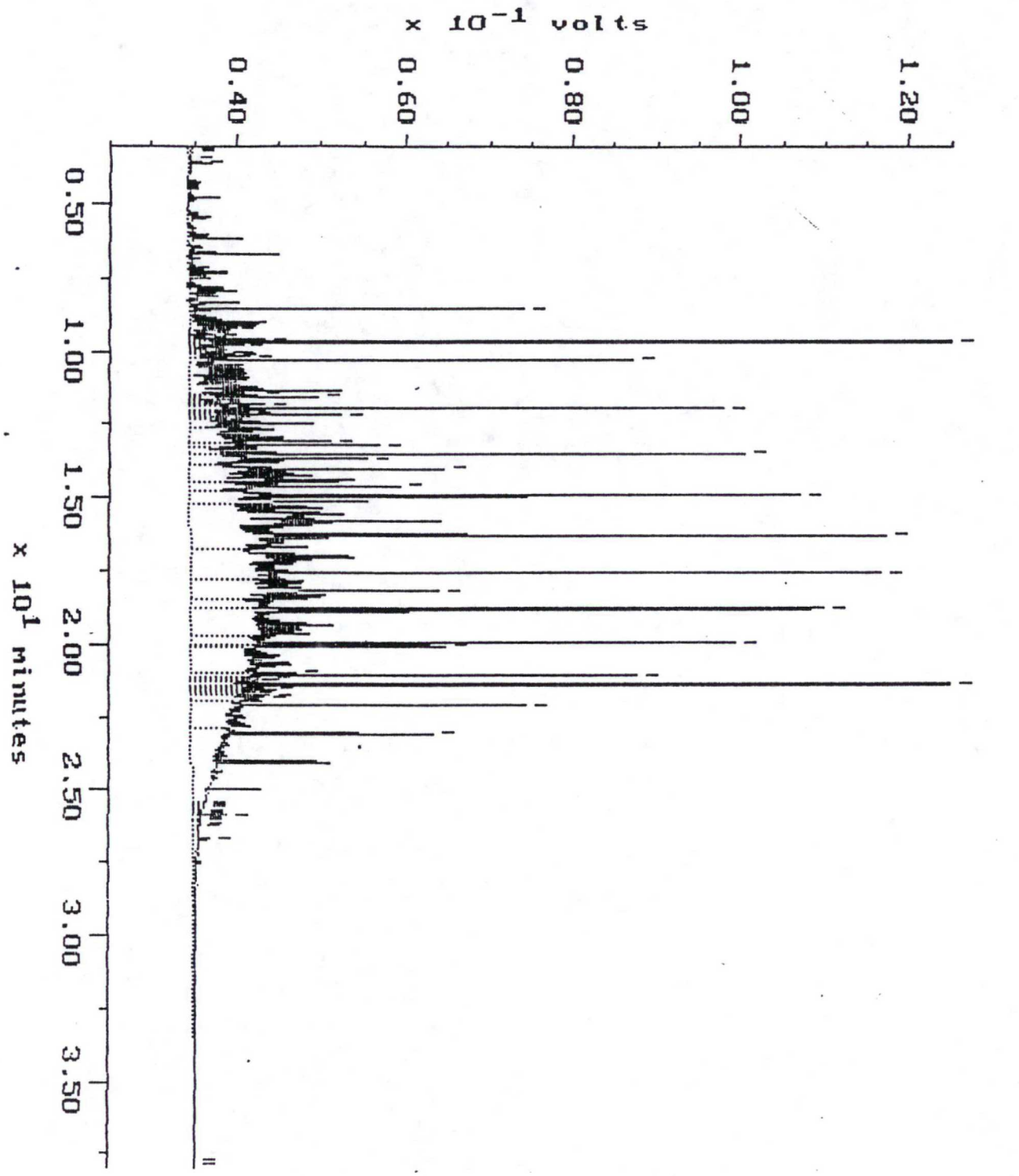
Sample: WRB 7-22
Acquired: 24-JUL-94 2:12

Channel: ANN
Method: F:\BRO2\MAXDATA\ANN\FUEL0723

Filename: R7238A12
Operator: ANN



CONTINUING CALIBRATION

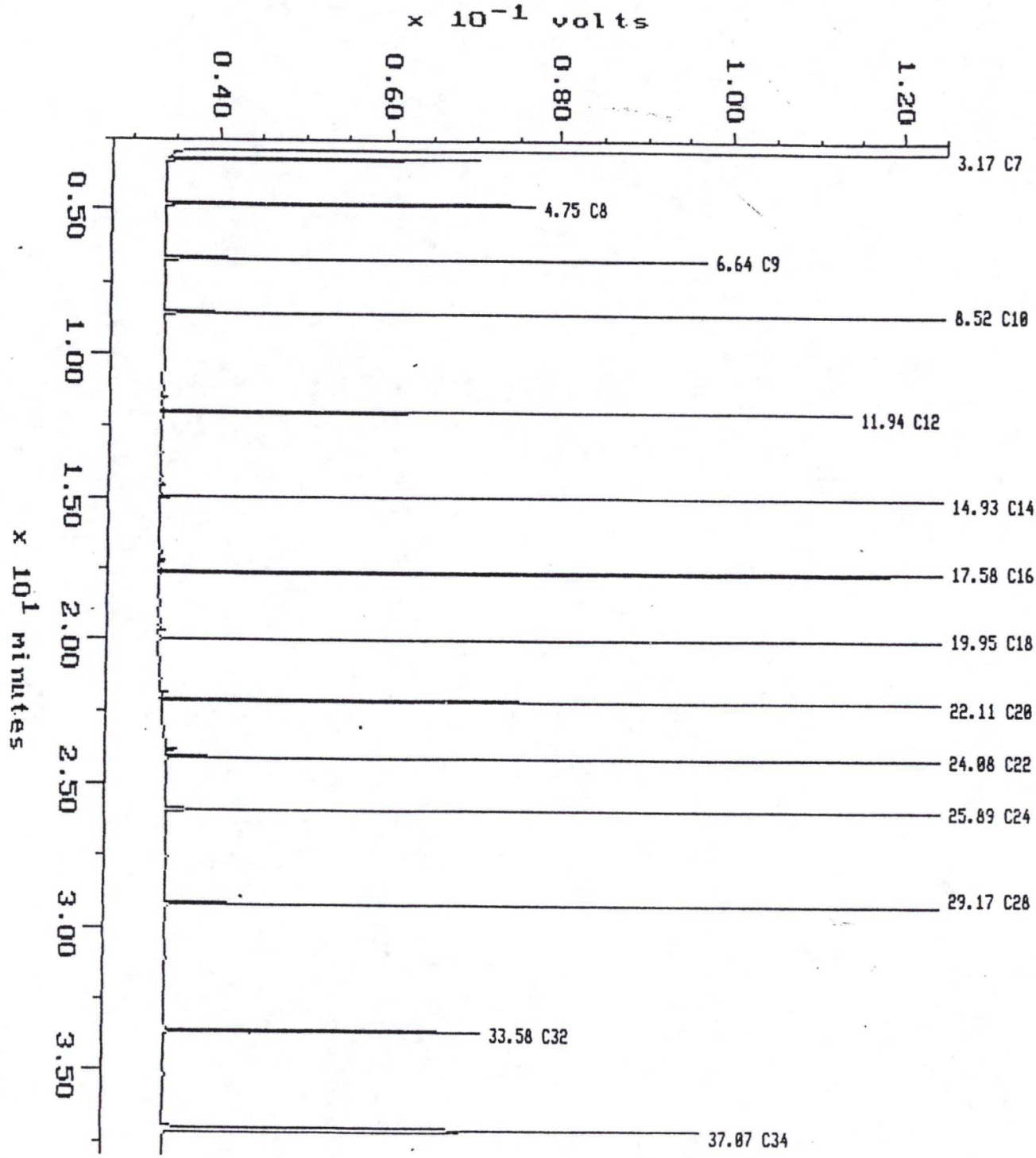


Alkane

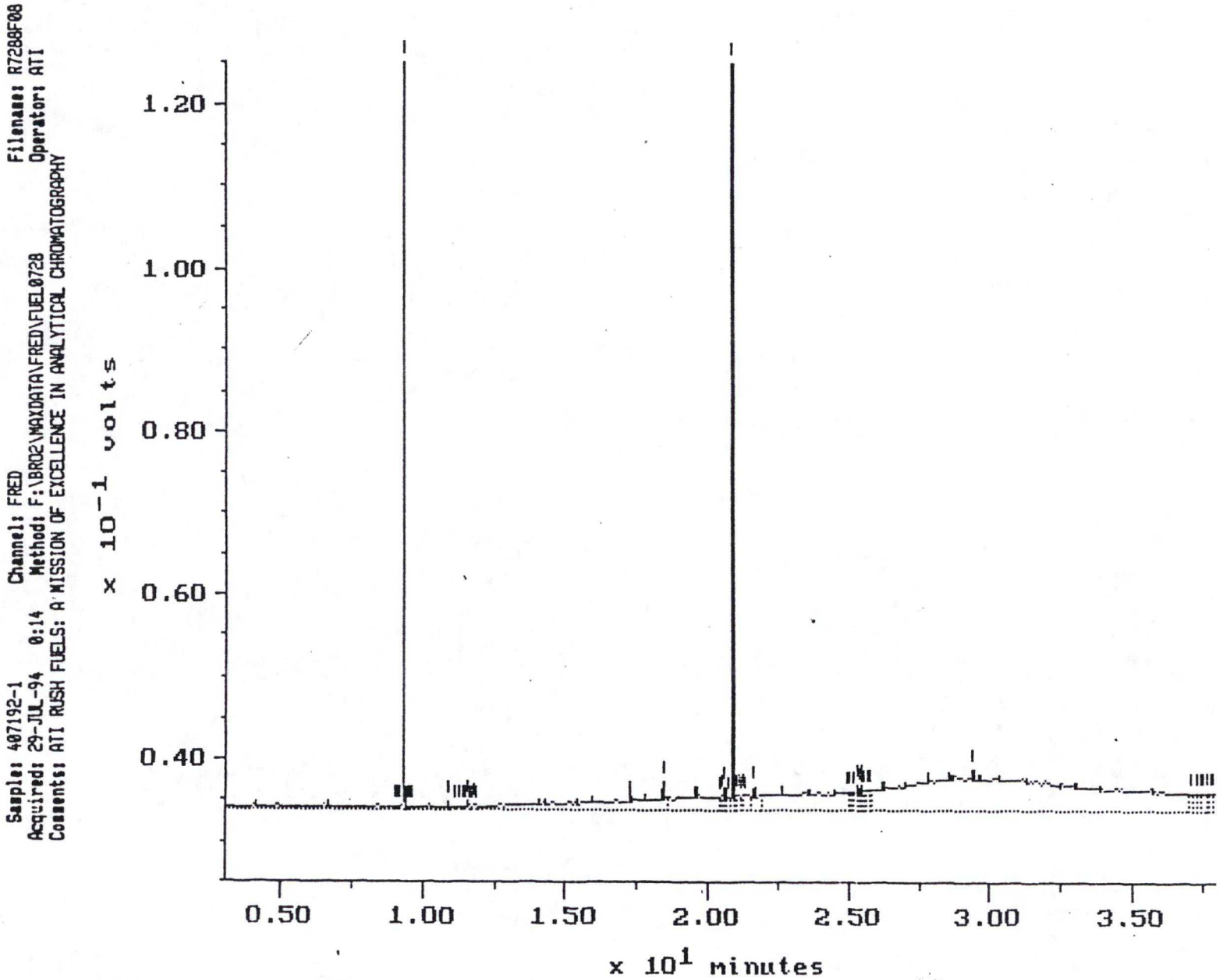
Sample: ALKANE ANN
Acquired: 17-JUL-94 11:58
Inj Vol: 1.00

Channel: ANN
Method: F:\BRO2\MAXDATA\ANN\FUEL0717

Filename: R7178A02
Operator: ANN



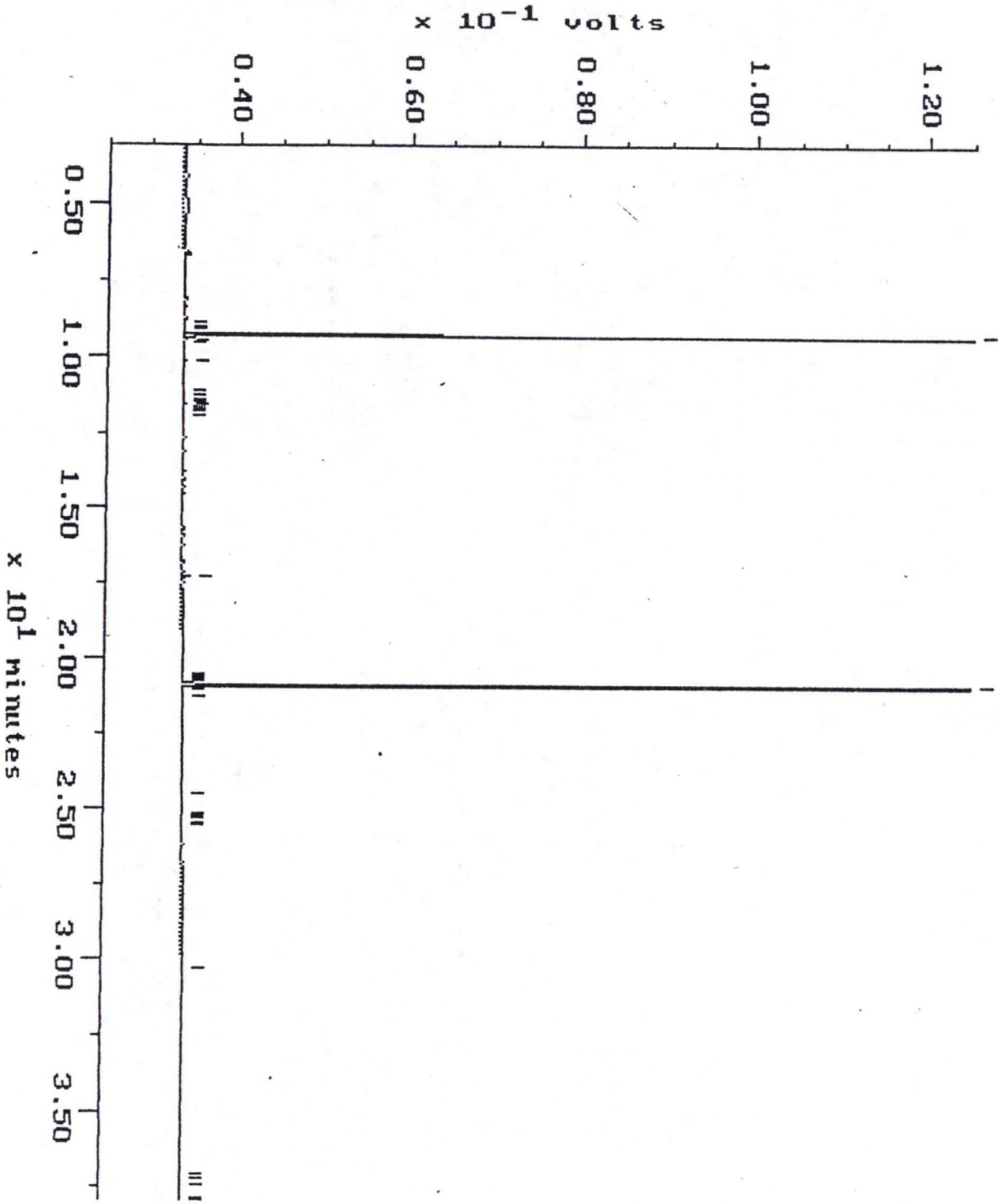
WA DOE WTPH-D


Sample: 407192-1 Channel: FRED Filename: R7288F08
Acquired: 29-JUL-94 0:14 Method: F:\BRO2\MAXDATA\FRED\FUEL0728 Operator: ATI
Comments: ATI RUSH FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY
1.20
1.00
0.80
0.60
0.40
x 10-1 volts
0.50
1.00
1.50
2.00
2.50
3.00
3.50
x 10^1 minutes

WA DOE WTPH-D

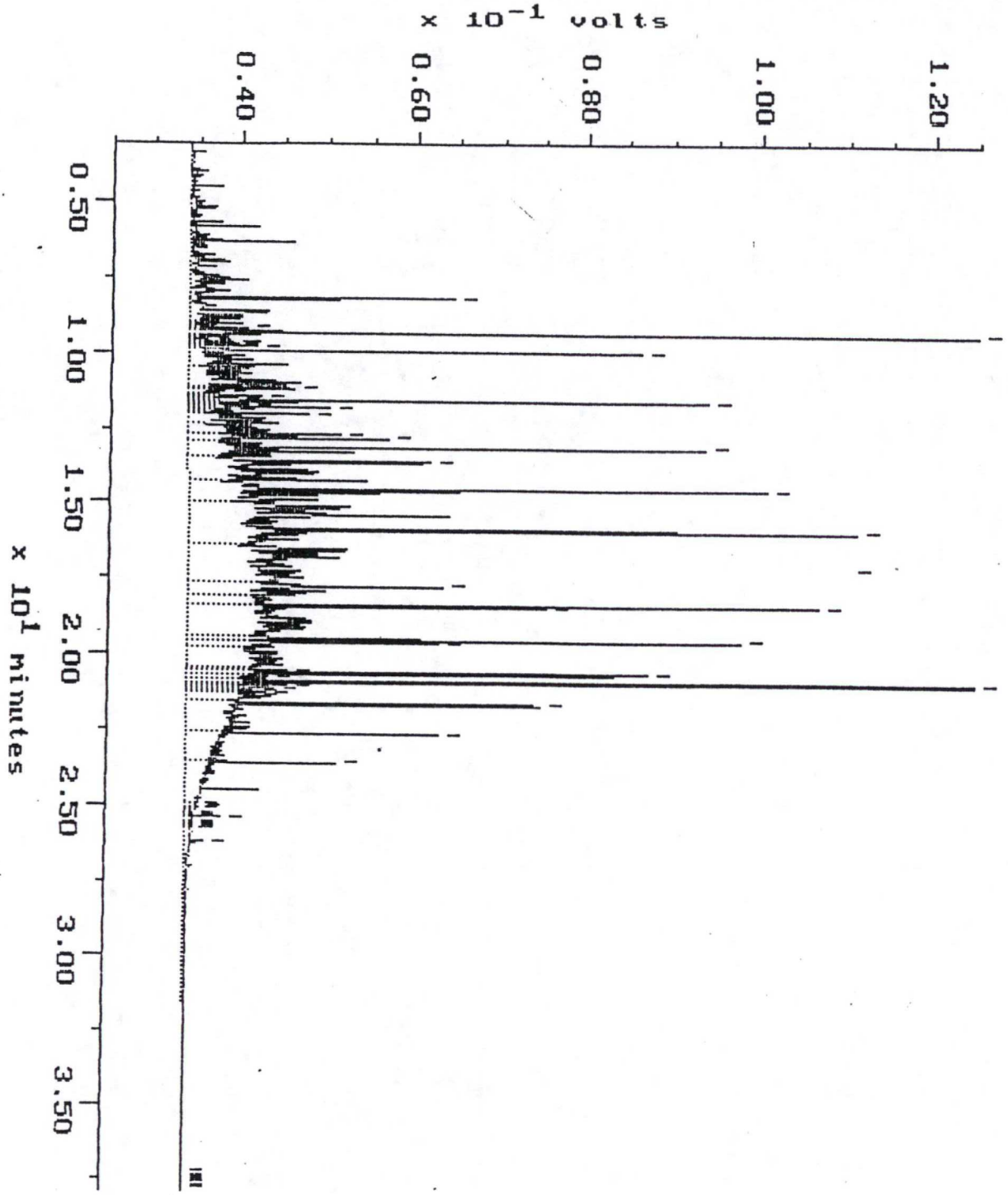
Blank

Sample: SRB-B 7-27 Channel: FRED Filename: R7278F06
Acquired: 27-JUL-94 17:35 Method: F:\BRO2\MAXDATA\FRED\FUEL0727 Operator: ATI
Comments: ATI RUSH FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY



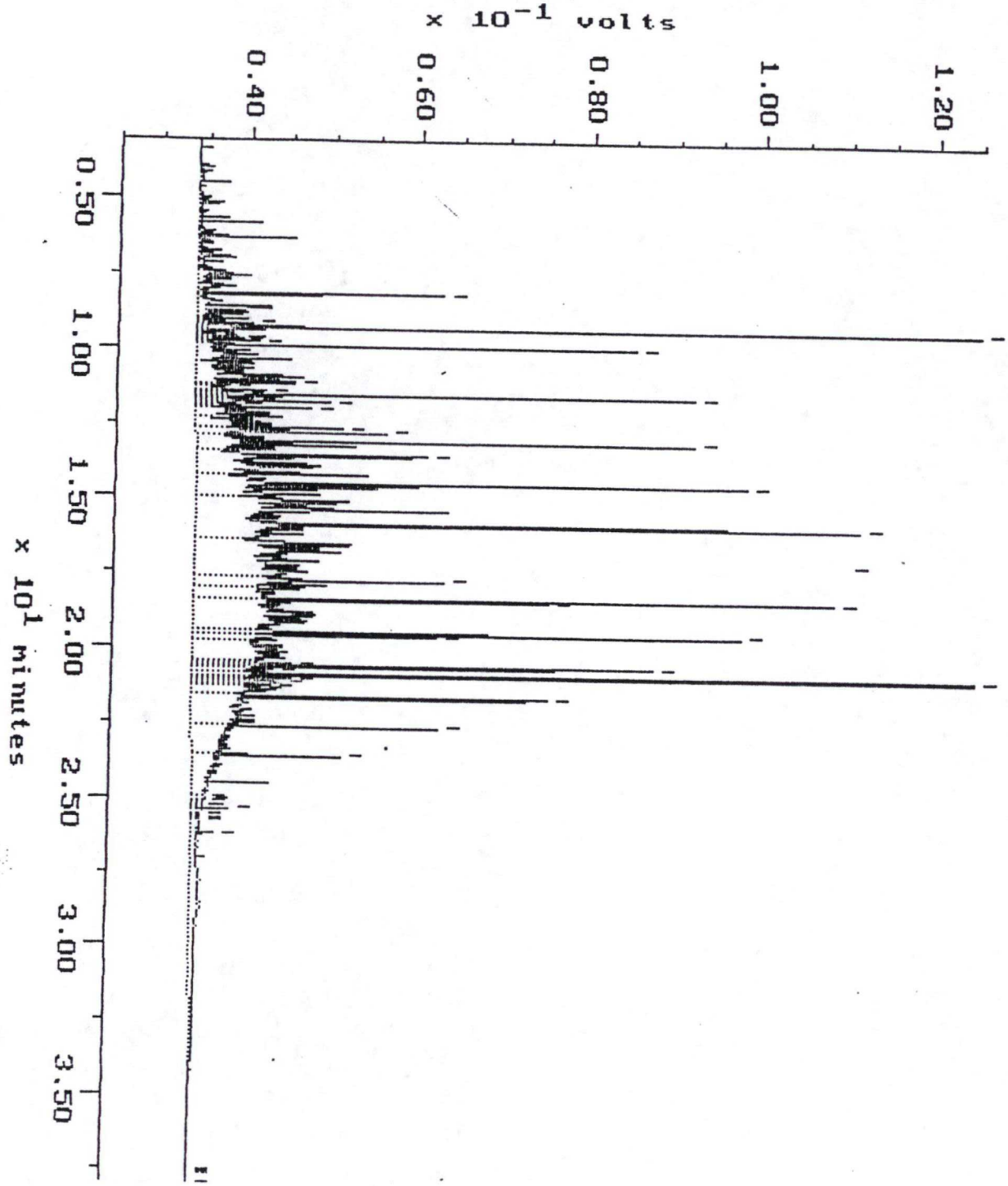
CONTINUING CALIBRATION

Sample: D 500 Channel: FRED Filename: R7278F01
Acquired: 27-JUL-94 13:25 Method: F:\BR02\MAXDATA\FRED\FUEL0727 Operator: ATI
Comments: ATI RUSH FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY



CONTINUING CALIBRATION

Sample: D 500 Channel: FRED Filename: R7278F35
Acquired: 28-JUL-94 16:53 Method: F:\BR02\MAXDATA\FRED\FUEL0727 Operator: ATI
Comments: ATI RUSH FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY



Alkane

Sample: ALKANE FRED
Acquired: 25-JUL-94 13:54
Inj Vol: 1.00

Channel: FRED
Method: F:\BR02\MAXDATA\FRED\FUEL0725

Filename: R7258F01
Operator: ATI